

# PATENT ABSTRACTS OF JAPAN

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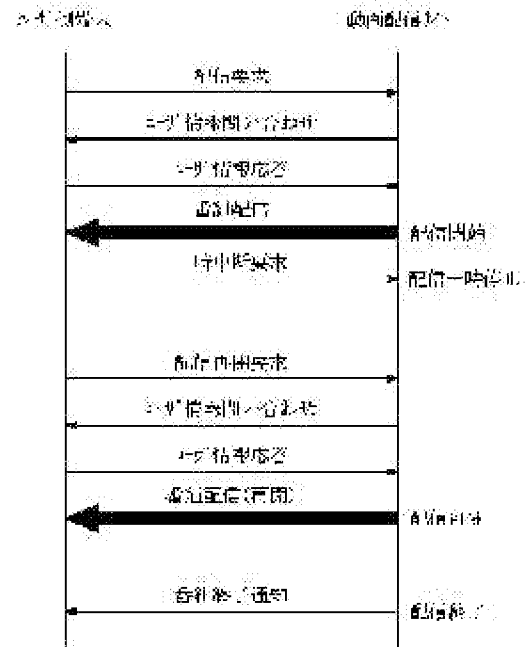
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## (54) MOVING PICTURE DISTRIBUTION SERVICE SYSTEM

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a moving picture distribution service system by which a user can again view a moving picture program from its interrupted part even after viewing of the moving picture program is interrupted.

**SOLUTION:** When the user selects distribution temporary interruption of a moving picture program, a user side terminal transmits a temporary interruption request to a moving picture distribution site. The moving picture distribution site receiving the temporary interruption request temporarily stops the distribution. When the user selects distribution restart of the moving picture program whose distribution is temporarily interrupted after that, the user side terminal transmits a distribution restart request of the moving picture program to the moving picture distribution site. The moving picture distribution site receiving the distribution restart request returns a user information inquiry message to the user side terminal. After authenticating the user information from the user side terminal, the moving picture distribution site restarts the distribution of the interrupted part of the moving picture program succeedingly. After distributing all of the moving picture program, the moving picture distribution site transmits a program end notice and terminates the distribution.



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## DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention]Especially this invention relates to the animation distribution system which distributes an animation program to real time about an animation distribution system.

[0002]

[Description of the Prior Art]In the animation distribution system in video-on-demand service. At an animation distribution site, according to the demand from users side terminals, the animation program data beforehand accumulated in the database (DB) was read, and it has distributed towards users side terminals via a wire communication network or a wireless communication network.

[0003]On the occasion of distribution of animation program data, when a user operates the key and remote control of users side terminals, the distribution request of a desired animation program is transmitted to an animation distribution site. An animation distribution site starts distribution of animation program data according to the distribution request. And it distributes continuously, without being interrupted until it finishes transmitting all animation program data.

[0004]

[Problem(s) to be Solved by the Invention]Thus, conventionally, when an animation distribution site starts distribution of animation program data, it distributes continuously, without being interrupted until it finishes transmitting all animation program data. For this reason, while the user is viewing and listening to a movie program for example, when it must stand a seat or must go out, you cannot watch a movie program in the meantime. Even though it views and listens to the movie program using a personal digital assistant at the time of going out, or even though it views and listens after going home from going out, there is a problem that it must see from the beginning again.

[0005]Even if the purpose of this invention interrupts viewing and listening of an animation

program, there is in providing after that the animation distribution service system to which it can view and listen again from the interrupted part of an animation program.

[0006]

[Means for Solving the Problem]An animation distribution service system of this invention, In an animation distribution service system which compresses and distributes desired animation program data to said users side terminals from said animation distribution site according to a distribution request sent out via a wire communication network or a wireless communication network at an animation distribution site from users side terminals, Said animation distribution site halts distribution of said animation program data, when a demand of discontinuation is received from said users side terminals temporarily [ distribution ], and when a demand of resumption of distribution is received from said users side terminals after that, it carries out resumption of distribution succeedingly from a part which halted distribution of said animation program data. Said animation distribution site changes a compression ratio of said animation program data according to transmission speed of said communication network.

[0007]A step which specifically sends out a distribution request of an animation program in which a user does viewing-and-listening hope in users side terminals to an animation distribution site via a wire communication network or a wireless communication network, A step which asks said users side terminals User Information for user authentication when a distribution request of said animation program is received at said animation distribution site, A step which answers User Information to said animation distribution site when an inquiry of said User Information is received in said users side terminals, A step which attests said User Information received at said animation distribution site, When said User Information is able to be attested at said animation distribution site, have a step which starts distribution of said animation program, and said users side terminals, It has a loading slot of an IC card which stored said User Information beforehand, and said User Information is read from said IC card inserted in this loading slot, and said User Information is generated and it answers.

[0008]A step which requires discontinuation of said animation distribution site temporarily [ of said animation program / distribution ] when a user demands discontinuation during viewing and listening of said animation program in said users side terminals temporarily [ distribution ], A step which halts distribution of said animation program when a demand of discontinuation is received at said animation distribution site temporarily [ said / distribution ], A step which requires resumption of distribution of said animation program of said animation distribution site when a user demands resumption of distribution of said animation program in said users side terminals, A step which asks said users side terminals User Information for user authentication when a demand of resumption of distribution of said animation program is received at said animation distribution site, When said User Information is able to be attested at said animation distribution site, it has a step which carries out resumption of distribution of the distribution of

said animation program from a part interrupted temporarily.

[0009] Said users side terminals which communicate with said animation distribution site via said wire communication network are provided with the following.

STB which has a loading slot of an IC card, and it is connected to said wire communication network, and is transmitted and received with said animation distribution site (Set Top Box). A television receiver which carries out a screen display of the received animation program data.

Said users side terminals which are provided with an IC card which is beforehand stored in said User Information and is inserted in said loading slot, and communicate with said animation distribution site via said wireless communication network, A personal digital assistant which has a loading slot of an IC card, and it is connected to said wireless communication network, and is transmitted and received with said animation distribution site. An IC card which is beforehand stored in said User Information and is inserted in said loading slot.

[0010] Said animation distribution site has a data compression means to which a compression ratio of animation program data is changed according to transmission speed of said wire communication network or a wireless communication network.

[0011]

[Embodiment of the Invention] Next, this invention is explained with reference to drawings.

[0012] Drawing 1 is a system configuration figure showing one embodiment of this invention, and the animation distribution site 1 has the provider function to perform distribution service of an animation program, An animation program is distributed to users' terminal 2 in a house via the wire communication network 4, or an animation program is distributed to the personal digital assistant 3 via the wireless communication network 5.

[0013] The animation program database (animation program DB) 11 with which animation program data is beforehand stored by the animation distribution site 1, The user information data base (User Information DB) 12 with which User Information of a user's user ID, a password, etc. which carried out the program distribution contract is stored beforehand, The program distributing server 13 which reads the animation program data demanded from users side terminals from animation program DB11, and sends it out, The user authentication server 14 which compares and attests User Information sent from users side terminals, and User Information registered into User Information DB12, It has the network access server 15 which connects the program distributing server 13 and the user authentication server 14 to the wire communication network 4 or the wireless communication network 5, respectively.

[0014] On the other hand, a user's terminal 2 in a house is provided with the following. STB(Set Top Box) 21 which performs transmission and reception with the animation

distribution site 1 via the wire communication network 4.

The television receiver 22 which carries out a screen display of the animation program.

IC card 23 in which User Information of user ID, a password, etc. was stored.

[0015]Here, the loading slot 24 of the IC card is established in STB21 of the terminal 2 in a house, and IC card 23 is usually inserted in this IC card loading slot 24. When STB21 requires animation distribution service, it reads User Information stored in IC card 23, and performs connection processing with the animation distribution site 1. The animation program data transmitted via the wire communication network 4 is received, and an animation program is sent out to the television receiver 22 in real time.

[0016]The personal digital assistant 3 is provided with the following.

The main part 31 which transmits and receives between the animation distribution sites 1 via a wireless communication network.

The indicator 32 which carries out image display of the received animation program to real time.

[0017]The loading slot 34 of IC card 33 where User Information was stored is established in the main part 31 of the personal digital assistant 3. As IC card 33, IC card 23 can be used as it is.

[0018]Like [ when requiring animation distribution service and a user operates and does the distribution request of the key of the main part 31 ] the case in the terminal 2 in a house, the main part 31, User Information stored in the IC card inserted in the IC card loading slot 34 is read, and connection processing with the animation distribution site 1 is performed. The animation program data transmitted via the wireless communication network 5 is received, and an animation program is displayed on the indicator 32 in real time.

[0019]Next, operation is explained.

[0020]Drawing 2 shows the animation distribution site and the message distribution processing procedure in users side terminals.

[0021]When viewing and listening to an animation program with the terminal 2 in a house, a user operates a remote control (not shown) etc., for example, and displays a program menu screen on the television receiver 22, and an animation program to view and listen is chosen. STB21 creates the distribution request message of the animation program which the user chose, and transmits to the animation distribution site 1 via the wire communication network 4.

[0022]The animation distribution site 1 which received the distribution request message transmits the User Information inquiry message via a wire communication network to STB21 of a user's house 2.

[0023]STB21 which received the User Information inquiry message reads User Information

from IC card 23 inserted in the loading slot 24, creates the User Information message, and answers to the animation distribution site 1.

[0024]The animation distribution site 1 which received the User Information message carries out comparative collation of User Information beforehand registered into User Information DB12, and User Information sent from users side terminals, and when in agreement, it starts distribution of the demanded animation program.

[0025]While the user is viewing and listening to a program, when it must stand a seat or must go out, a user operates a remote control (not shown) etc. and chooses discontinuation temporarily, for example. STB21 creates the message which requires discontinuation for distribution of an animation program temporarily, and transmits to the animation distribution site 1 via the wire communication network 4. The animation distribution site 1 which received the suspend-request message temporarily interrupts distribution temporarily.

[0026]Then, when asking for the resumption of animation program distribution which the user went home from going out and interrupted temporarily, a remote control (not shown) etc. are operated and resumption of distribution is chosen. STB21 creates the message which requires resumption of animation program distribution, and transmits to the animation distribution site 1 via the wire communication network 4.

[0027]The animation distribution site 1 which received the resumption request message of distribution replies the User Information inquiry message to STB21. STB21 which received the User Information inquiry message reads User Information from IC card 23, creates the User Information message and answers.

[0028]The animation distribution site 1 which received the User Information message carries out comparative collation of User Information beforehand registered into User Information DB12, and User Information sent from users' terminal, and when in agreement, it resumes distribution succeedingly from the part of the animation program interrupted previously. And when all the animation programs are distributed, a program terminating notice is sent out and distribution is ended.

[0029]When viewing and listening to an animation program with the personal digital assistant 3, a user operates the key of the main part 31, and chooses and does the distribution request of the animation program, for example. The main part 31 creates the distribution request message of the animation program which the user chose, and transmits to the animation distribution site 1 via the wireless communication network 5.

[0030]The animation distribution site 1 which received the distribution request message transmits the User Information inquiry message via a wireless communication network to the personal digital assistant 3.

[0031]The main part 31 of the personal digital assistant 3 which received the User Information inquiry message reads User Information from IC card 33 inserted in the loading slot 34,

creates the User Information message, and answers to the animation distribution site 1.

[0032]The animation distribution site 1 which received the User Information message starts distribution of the demanded animation program, when User Information is able to be attested.

[0033]After a distribution start, if a user operates the key of the main part 31 and chooses momentary discontinuation of distribution, the main part 31 will transmit the message which requires discontinuation temporarily [ distribution ] to the animation distribution site 1, and, as for the animation distribution site 1, will halt distribution.

[0034]Then, if a user operates the key of the main part 31 and chooses resumption of distribution, the main part 31 will create the message which requires resumption of distribution, and will transmit to the animation distribution site 1 via the wireless communication network 5.

[0035]The animation distribution site 1 which received the resumption request message of distribution replies the User Information inquiry message to the personal digital assistant 3. The main part 31 which received the User Information inquiry message reads User Information from IC card 33, creates the User Information message and answers.

[0036]The animation distribution site 1 which received the User Information message resumes distribution succeedingly from the distribution interrupted part of an animation program, when User Information is able to be attested. And when all the animation programs are distributed, a program terminating notice is sent out and distribution is ended.

[0037]When the user who was viewing and listening to an animation program with the terminal 2 in a house views and listens to a continuation of the animation program interrupted temporarily using the personal digital assistant 3 at the time of going out, IC card 23 inserted in STB21 of the terminal 2 in a house is sampled, IC card 23 is inserted in the loading slot 33 of the personal digital assistant 3, the key of the main part 31 is operated, and it may be made to choose resumption of distribution.

[0038]Drawing 3 shows the procedure in the animation distribution site 1.

[0039]If the network access server 15 of the animation distribution site 1 receives a program distribution request message via a wire communication network or a wireless communication network from users side terminals, it will reply the inquiry message of clinch User Information.

[0040]Then, the network access server 4 which received the response message of User Information requires user authentication from the user authentication server 14. The user authentication server 14 carries out comparative collation of User Information held beforehand User Information DB12 and User Information included in the User Information response message, and when in agreement, it sends out an attestation completion notification to the network access server 15.

[0041]The network access server 15 which received the attestation completion notification issues the distribution command of the animation program of a users request to the program distributing server 13. The program distributing server 13 which received the program

distribution command chooses the animation program specified as animation program DB11 among the animation programs stored beforehand, and starts distribution. Animation program data is transmitted to users side terminals via the wireless communication network 5 via the network access server 15 and the wire communication network 4.

[0042]Then, when the network access server 15 receives a suspend-request message via a wire communication network or a wireless communication network from users side terminals temporarily [ distribution ], a distribution halt command is issued to the program distributing server 13, and distribution is made to halt.

[0043]After that and the network access server 15, When the resumption request message of distribution is received via a wire communication network or a wireless communication network from users side terminals, like the case where a program distribution request message is received, a clinch User Information inquiry message is replied to users side terminals, and the User Information response message is received. And when user authentication is required from the user authentication server 14 and an attestation completion notification is received, a distribution resuming command is issued to the program distributing server 13. The program distributing server 13 which received the distribution resuming command resumes distribution succeedingly from the distribution interrupted part of an animation program. When all the animation programs are distributed, a program terminating notice is sent out and distribution is ended.

[0044]Drawing 4 is a block diagram showing other embodiments of this invention.

[0045]Here, the same numerals are given to the same thing as the component shown in drawing 1. The internal block of the terminal 2 in a house and the personal digital assistant 3 is carrying out the graphic display abbreviation.

[0046]The point of difference with drawing 1 is provided with the following.

The transmission speed information informing part 16 which is the point changes the compression ratio of animation program data and he is trying to distribute it according to the transmission speed of a communication network, for this reason notifies the transmission speed of a communication network.

The data compression part 17 to which the compression ratio of animation program data is changed according to transmission speed.

[0047]Next, operation is explained.

[0048]The network access server 15 of the animation distribution site 1, If a program distribution request message is received via the wire communication network 4 or the wireless communication network 5 from users side terminals (the terminal 2 in a house, or the personal digital assistant 3), The User Information inquiry message is replied to users side terminals, the User Information response message is received, and user authentication is required from



the user authentication server 14. And an attestation completion notification is received from the authentication server 14. The above explanation is the same as the embodiment shown in drawing 1.

[0049]By the way, the network access server 15 which received the attestation completion notification is faced ordering a program distribution start to the program distributing server 13, and makes the transmission speed information informing part 16 notify the transmission speed information on a communication line.

[0050]The distributing server 13 which received a program distribution command and transmission speed information sets up the optimal compression ratio of animation program data according to transmission speed, and specifies it as the data compression part 17. That is, a compression ratio is highly set up, so that transmission speed is slow, and a compression ratio is set up become low and it is made to become high definition, so that transmission speed is quick.

[0051]And animation program data is read from animation program DB11, a data compression is carried out with the appointed compression ratio by the data compression part 17, and it distributes.

[0052]Even if it faces the resumption of animation program distribution interrupted temporarily, the network access server 15 which received the attestation completion notification is faced ordering resumption of distribution to the program distributing server 13, and makes the transmission speed information informing part 16 notify the transmission speed information on a communication line similarly. The distributing server 13 which received a program distribution command and transmission speed information sets up the optimal compression ratio of animation program data according to transmission speed, and specifies it as the data compression part 17. And it reads from the part which interrupted animation program data from animation program DB11 temporarily, and a data compression is carried out with the appointed compression ratio by the data compression part 17, and resumption of distribution is carried out.

[0053]Thus, when a communication network is a high speed line by changing the compression ratio of a video data and making it distribute according to a communication line, a high-definition animation program can be admired, and even if image quality deteriorates, with the personal digital assistant of the wireless circuit which is seldom a high speed, it can secure smooth video.

[0054]

[Effect of the Invention]As explained above, even if it interrupts viewing and listening of animation programs, such as a movie, according to a user's demand by enabling momentary discontinuation of distribution of an animation program, and resumption of distribution according to this invention, it can view and listen succeedingly from the interrupted part of an

animation program after that.

[0055]If there is even a terminal corresponding to the IC card when User Information uses the IC card stored beforehand, it will become possible to connect with an animation distribution site easily and to receive distribution service also at whose terminal, anywhere.

[0056]Since it can view and listen to an animation program from the middle succeedingly using a personal digital assistant at the time of going out, when you like, it can view and listen to an animation program at a favorite place.

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[Translation done.]

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動画配信サーバ

